

IN THE CLAIMS:

Please cancel claims 1 and 24 without prejudice, and amend claims 2, 8, 10-12, 14, 17, 19, 20, 27, and 29 to the following:

1 ~~7~~. A system for monitoring movement of a person's eye, comprising:

a device configured to be worn on a person's head;

an array of emitters on the device for directing light towards an eye of the person when the device is worn, the array of emitters configured for projecting a reference frame towards the eye;

Q2 a camera oriented towards the eye for monitoring movement of the eye relative to the reference frame; and

one or more sensors on the device for detecting light from the array of emitters that is reflected off of the eye or its eyelid, the one or more sensors producing an output signal indicating when the eye is open or closed.

Q3 7 ~~7~~. The system of claim <sup>1</sup>~~7~~, wherein the array of emitters comprises a plurality of emitters disposed in a substantially vertical arrangement on the device.

9 ~~10~~. The system of claim <sup>1</sup>~~7~~, wherein the array of emitters is configured for projecting a set of crossed bands towards the eye for dividing a region including the eye into four quadrants.

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cont. 10 ~~11~~. The system of claim <sup>1</sup>~~7~~, further comprising a transmitter on the device for wireless transmission of video output signals from the camera to a remote location. X

a4 11 ~~12~~. The system of claim ~~1~~<sup>1</sup>, wherein the array of emitters comprise infrared emitters configured to emit pulses of infrared light.

a5 13 ~~14~~. The system of claim ~~1~~<sup>1</sup>, wherein the camera is mounted on the device.

a6 16 ~~17~~. The system of claim ~~1~~<sup>1</sup>, further comprising a sensor on the device for detecting one or more physiological characteristics of the person.

a7 18 ~~19~~. The system of claim ~~1~~<sup>1</sup>, further comprising at least one of an orientation sensor for detecting the spatial orientation of the device and an actigraphic sensor.

19 ~~20~~. The system of claim ~~1~~<sup>1</sup>, wherein the device comprises at least one of an eyeglass frame, a hat, a helmet, a visor, and a mask.

23 ~~24~~. A method for monitoring movement of a person's eye using a detection device including an array of emitters that are directed towards an eye of the person when the detection device is worn, and a camera oriented towards the eye, the method comprising:

a8 cont. emitting light from the array of emitters towards the eye to project a reference frame onto the eye;

monitoring movement of the eye relative to the reference frame with the camera; and

generating a graphical output of the movement monitored by the camera relative to the reference frame;

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wherein the detection device further comprises one or more sensors, and wherein the method further comprises detecting light from the array of emitters reflected off of the eye with the one or more sensors, the one or more sensors producing a light intensity signal indicating when the eye is open or closed.

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The method of claim 23, wherein the monitoring step comprises measuring movement of the eye's pupil relative to the reference frame.

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A  
The method of claim 23, further comprising correlating the output signal from the one or more sensors with video signals produced by the camera monitoring movement of the eye relative to the reference frame, thereby determining the person's level of alertness.

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